



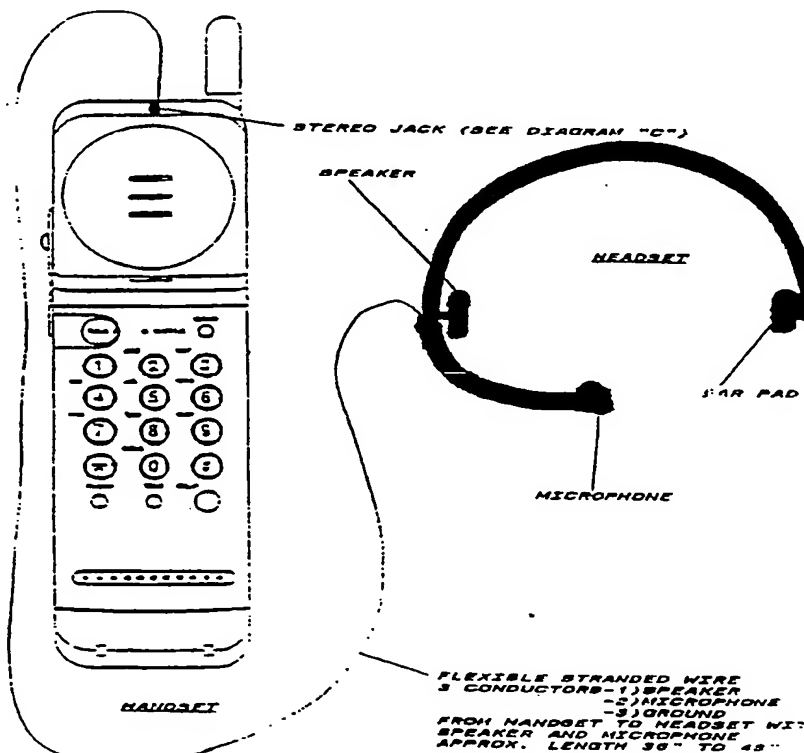
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| (21) International Application Number: PCT/CA94/00723 (22) International Filing Date: 14 December 1994 (14.12.94) (30) Priority Data: 2,111,822 16 December 1993 (16.12.93) CA (71)(72) Applicant and Inventor: RILEY, Ronald, D. [CA/CA]; 107 A Coolbreeze Avenue, Pte Claire, Quebec H9R 3S8 (CA). | (81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ). Published <i>With international search report.</i> | |

(54) Title: **HANDSFREE CORDLESS TELEPHONE**

(57) Abstract

The cordless telephone is a device consisting of two units as follows: A) a base unit physically connected to the public utility (telecommunications network) with the ability to relay electronic signals from a handset not physically connected to the public utility; B) a handset unit with the capability to send and receive electronic signals to the base unit. The characteristics of this device allow the holder of the handset to move about without the inconvenience of being physically attached to the public utility telecommunications network while being in communication. Also, the cordless telephone has the capability of remaining in a standby mode, i.e. waiting for or placing telephone calls.



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SPECIFICATION

The present invention relates to cordless telephones.

The owners of cordless telephones have an infinite number of uses for this device. The advantage of not being in physical contact with the public telecommunications utility i.e. no physical conductors required to send electronic signals to the handset (see Diagram A). This device is used by people in domestic, commercial and industrial uses every day. It must be understood that cordless telephones have range limitations. There are a number of reasons why, i.e. Canadian communication laws (C.R.T.C.) have placed limitations on the output of the base/handset units, quality and technology of the device and the environment in which the device is being utilized.

However convenient the freedom of this cordless device is, a major drawback is the need to hold the handset unit while in use. This inhibits the user from using both hands in various activities the device has enabled the user to perform because of the cordless advantage.

The present invention will permit freedom of movement and *hands free* use of the device while connected to the public utilities communications network. The advantages of these freedoms can be readily appreciated, and are infinite.

The present cordless telephones, i.e. cordless telephones already in use, and future manufactured units, can possess the great advantage of hands free use.

This may be achieved by retrofitting existing cordless telephones or adding to the manufacturing process of unbuilt cordless telephones, a component known as a stereo jack (see Diagram C).

This component can be utilized to divert electronic signals from the send (microphone) and listen (speaker) circuits in the handset to a headset which has both microphone and speaker (see Diagram B). The handset can then be attached by a clip on the opposite side (or back) of the keypad (see Diagram D), thus freeing the hand that is now used to hold the handset in the proper position while the user is conversing on the cordless telephone.

The jack described in Diagram C has the function of enabling the cordless telephone to be used with or without the headset. When the male part of the Jack which is connected to the headset is inserted into the female part of the Jack (which is integrated into the handset) the handset microphone and speaker become nonfunctional (i.e. circuit is broken to both) thus the speaker and microphone in the headset become activated. When the headset Jack (male) is removed from the female receptacle in the handset then the microphone and speaker are reconnected to enable the user to use the handset as originally designed. See Diagram C for the addition of headset to handset circuit.

The addition of the handsfree function (headset) of the cordless telephone requires no new power, as the headset uses the same source of power as the handset.

Attachment of the handset to the user for hands free mode will include in retrofitting and in new manufacturing, a clip (see Diagram D) on the reverse side of the keypad of the handset will enable the user to fasten the handset to a belt worn about the waist.

It must be noted that the jack described in the specification may, in retrofitting or in new manufacturing take a different style, size or form, but remains identical in its function of connecting and disconnecting the listen and talk circuits herein described.

In retrofitting or in new manufacturing, a clip for the attachment of the handset to the belt enabling hands free operation (see Diagram D), will have to be glued or fastened by other suitable means. This will vary depending on the unit being retrofitted.

CLAIMS

The embodiments of this invention in which an exclusive property or privilege is claimed are defined as follows:

- A. The cordless telephone may be utilized while in communication through public utility telecommunications, i.e. Bell Canada, with another party *hands free*.
- B. Freedom of movement while conversing on the cordless telephone.
- C. The ability to retrofit cordless telephones already in domestic industrial and commercial use by means of the addition of the jack herein described, comprising of the male and female parts and also including the fitting of the clip to the handset enabling attachment to the belt worn about the waist.
- D. New manufacturing process including a jack herein described, comprising of the male and female parts connected to the handset circuitry also included in new manufacturing a clip enabling the handset to be attached to a belt worn about the waist.

A TYPICAL CORDLESS TELEPHONE

FIGURE 1

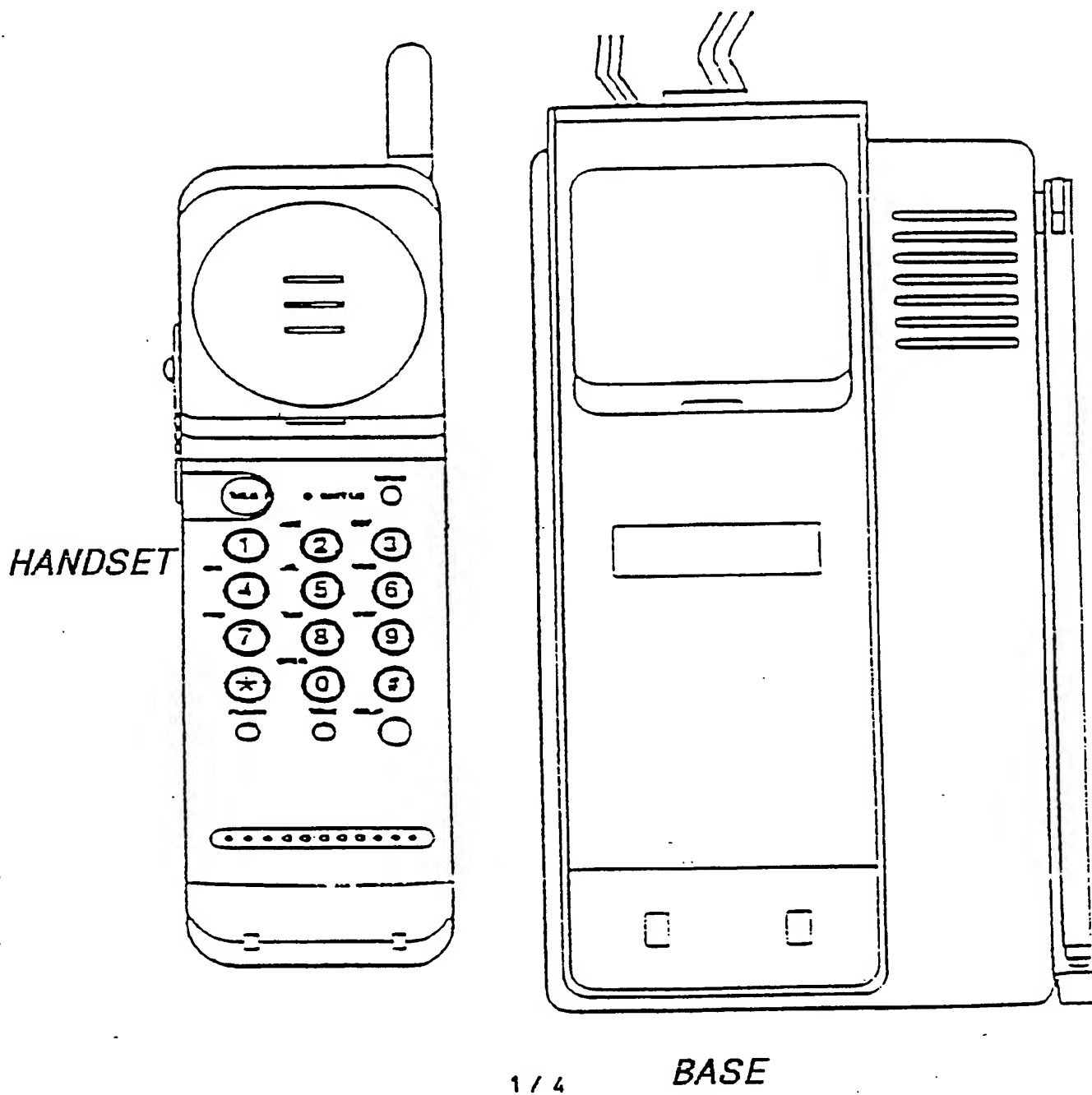


FIGURE 2

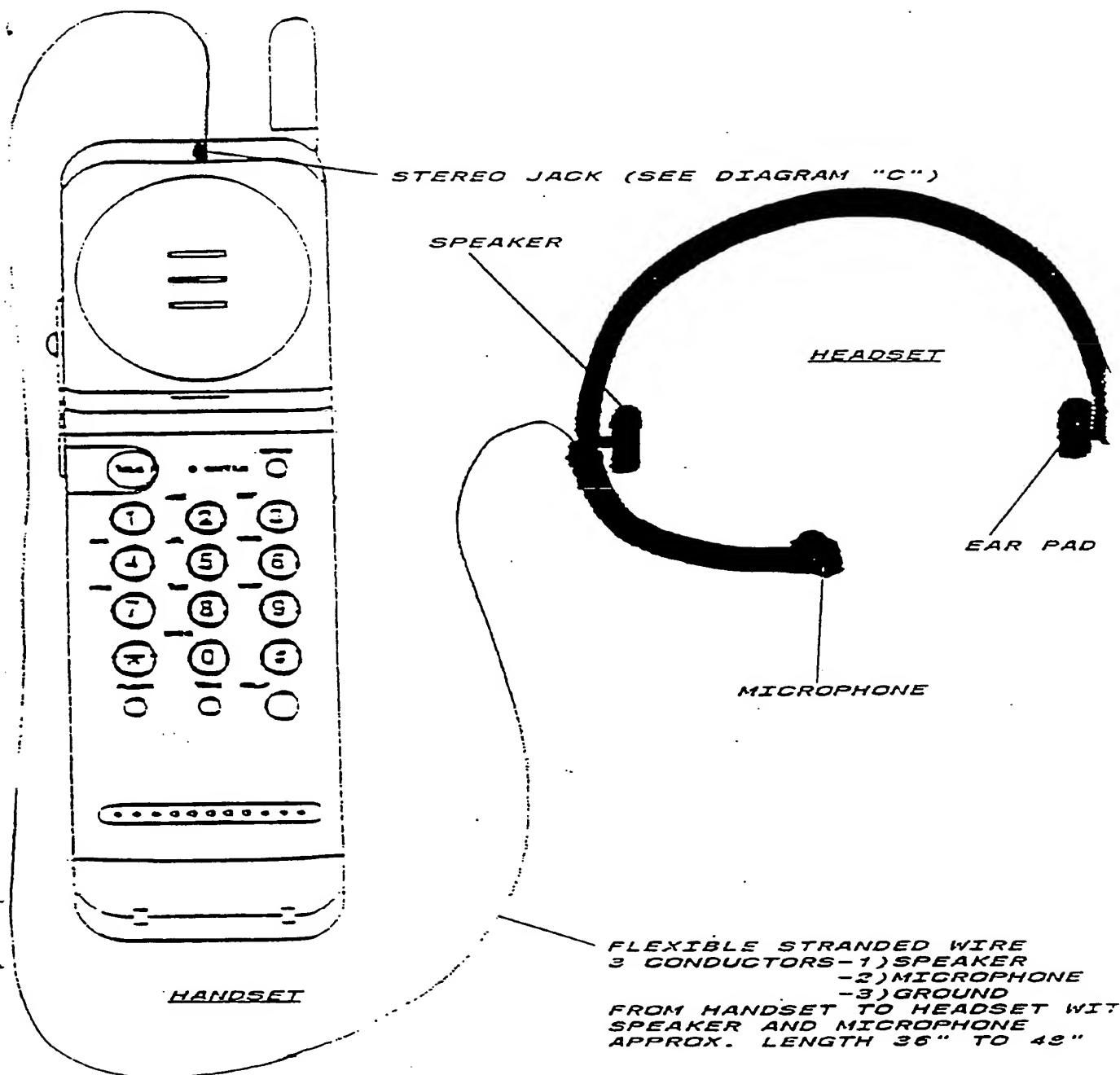
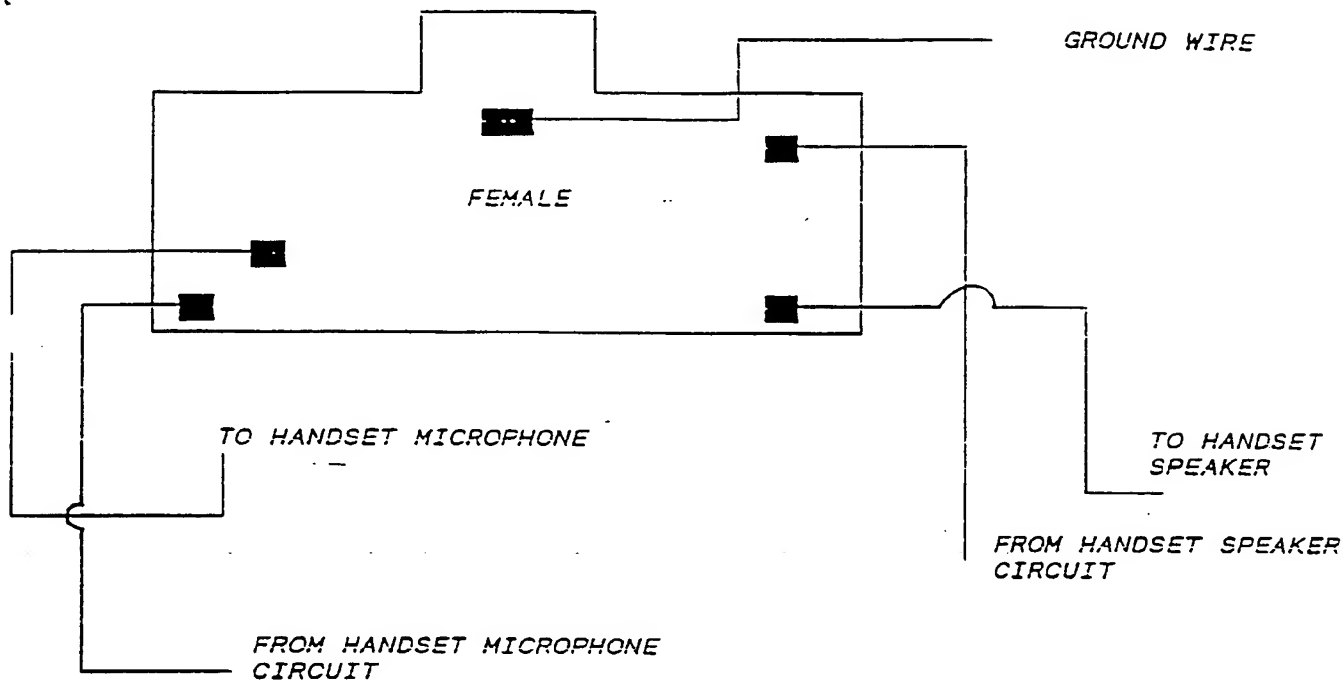


FIGURE 3

JACK CONNECTION ON HANDSET (FEMALE)



JACK CONNECTION FOR HEADSET (MALE)

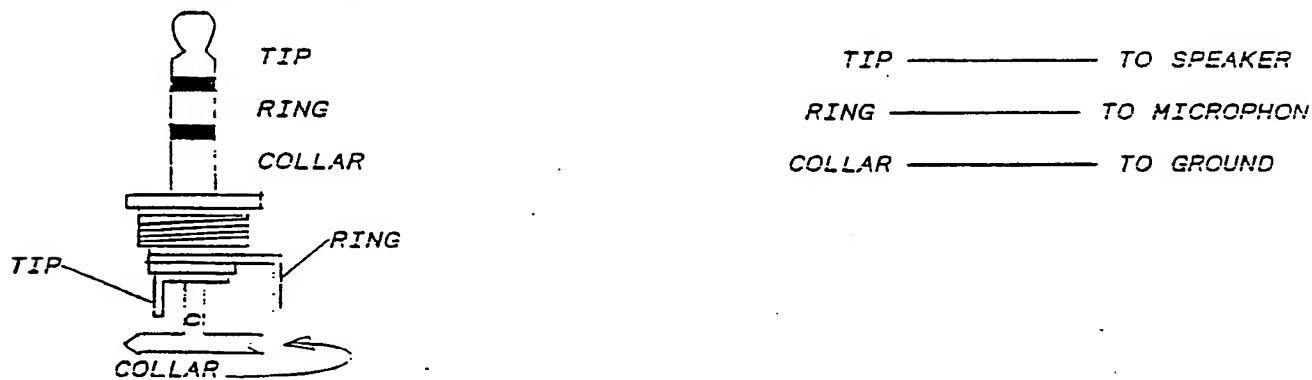
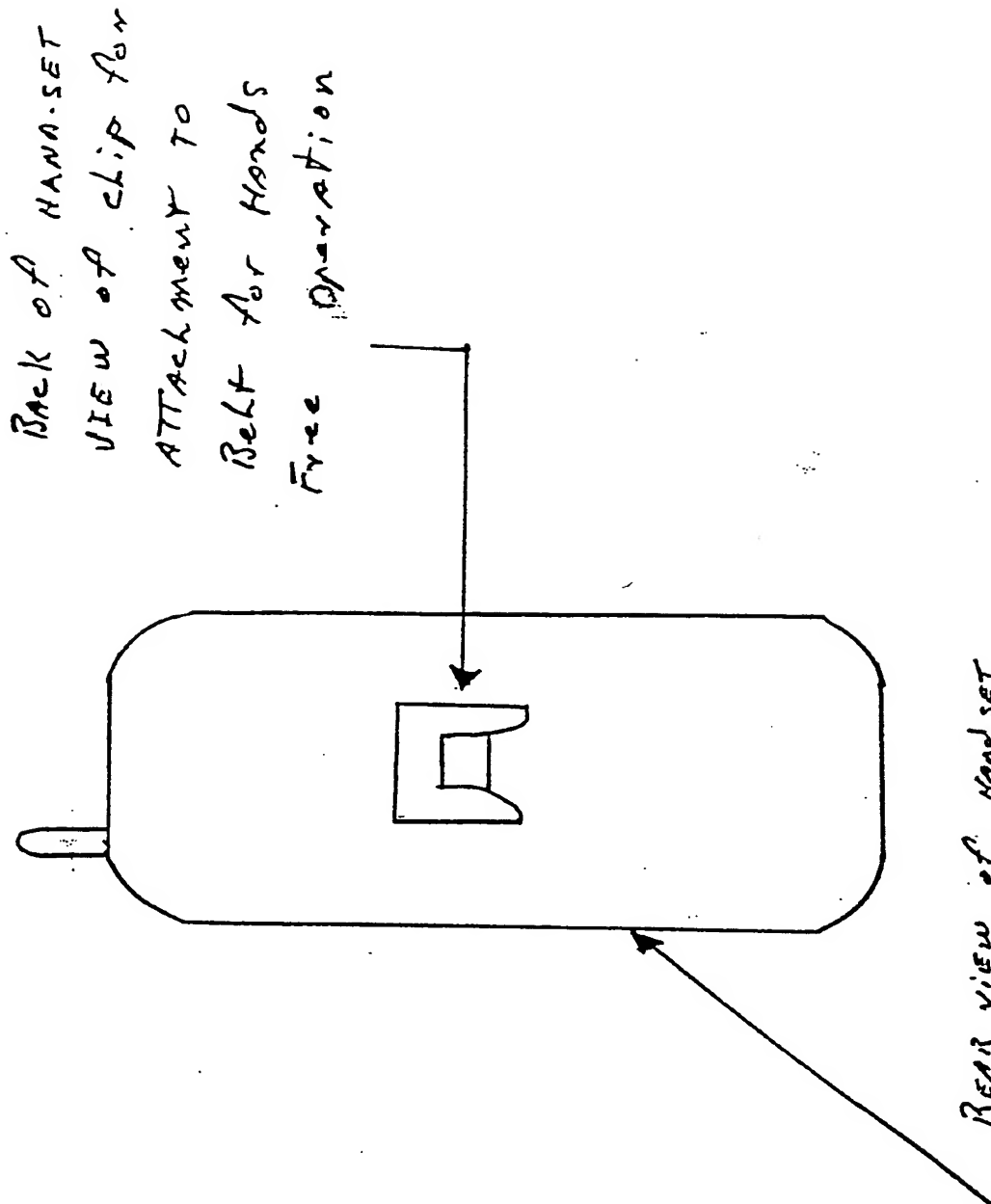


FIGURE 4



INTERNATIONAL SEARCH REPORT

Int. No. Application No.
PCT/CA 94/00723

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 H04M1/60 H04M1/72

According to International Patent Classification (IPC) or to both national classification and IPC:

B. FIELDS SEARCHED

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| X | EP,A,0 464 011 (TELEFONAKTIEBOLAGET L.M. ERICSSON) 2 January 1992 see column 1, line 25 - column 4, line 43; figures 1-3 | 1 |
| X | PATENT ABSTRACTS OF JAPAN vol. 16, no. 492 (E-1278) 12 October 1992 & JP,A,04 180 329 (TAKAKOMU K.K.) see abstract | 1 |
| X | US,A,4 591 661 (BENEDETTO ET AL) 27 May 1986 see column 2, line 10 - column 3, line 18; figures 1-3 | 1 |
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Date of the actual completion of the international search

8 March 1995

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06.04.95

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
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| US-A-4591661 | 27-05-86 | NONE | |
| US-A-5191602 | 02-03-93 | NONE | |

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